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REMARKS

Applicants cancel claims 3-4, 8, and 11, and add new claims 13-15. Thus, claims 1-2, 5-7, 9-10, and 12-15 are pending in the application. Applicants amend claim 1 to incorporate the features of claim 4, and amend claims 5-7 and 9-10 to depend from claim 1. Applicants add new claims 13-15 to round out the scope of the claimed invention. Applicants refer to Figs. 2 and 6, and their corresponding description in the specification for exemplary embodiments of and support for the claimed invention. No new matter has been added.

The present application is a continuation of U.S. Patent Application No. 09/411,072, now U.S. Patent No. 6,741,859, which claims perfected priority under 35 U.S.C. § 119 from Japanese Patent Application No. 10-297709 filed on October 20, 1998. Applicants, thus, respectfully request that the Examiner acknowledge the 35 U.S.C. § 119 priority claim and receipt of certified copies of priority documents in parent Application No. 09/411,072.

Applicants also request that the Examiner indicate acceptance of the drawings.

Claims 1, 5-7, 10 and 11 were rejected under 35 U.S.C. § 101 for statutory type double patenting. In particular, the Examiner rejected these claims for allegedly claiming the same invention as that of claims 1-6 of U.S. Patent No. 6,741,958 to Otsuka et al., the parent to the present application. Applicants amend base claim 1 to include the features of claim 4, and respectfully submit that claims 1-6 of Otsuka et al. do not claim,

“[a] system for mobile communication based on code division multiple access, comprising:

base stations, each of which communicates with mobile stations by using a plurality of radio frequencies covering respective cells, the respective cells including a first cell covered by a first radio frequency and a second cell covered by a second radio frequency; and

a base-station controller which communicates with said base stations, and controls the mobile stations to switch from the

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first cell of a first base station to the first cell of a second base station via a soft hand-off operation and switch between the first cell and the second cell within any base station via a hard hand-off operation, said base-station controller providing the mobile stations with no direct switch between the second cell of said first base station and the second cell of said second base station, wherein each of said base stations transmits only the first radio frequency when a number of the mobile stations belonging to the first cell thereof is smaller than a given threshold, and transmits the second radio frequency in addition to the first radio frequency when the number exceeds the given threshold, and wherein said base-station controller controls some of the mobile stations to switch from the first cell to the second cell as transmission of the second radio frequency starts," as recited in claim 1. (Emphasis added)

Applicants amend claims 5-7 and 10 to depend from claim 1. Accordingly, Applicants respectfully request that the Examiner withdraw the § 101 statutory double patenting rejection.

Claim 1 stands rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,081,714 to Wakizaka; claims 2-3 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Wakizaka in view of U.S. Patent No. 6,128,493 to Song; claim 4 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Wakizaka in view of U.S. Patent No. 6,094,581 to Fried et al.; claim 8 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Wakizaka in view of U.S. Patent No. 6,393,003 to Lee; claim 9 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Wakizaka in view of U.S. Patent No. 5,953,661 to Schwinghammer et al.; and claim 12 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Wakizaka in view of U.S. Patent No. 6,393,003 to Lee. Applicants amend claim 1 to incorporate the features of claim 4, and respectfully traverse the Examiner's rejection based on Wakizaka in view of Fried et al.

The Examiner relied upon col. 4, lines 1-43 of Wakizaka as alleged disclosure of the claimed features,

“wherein each of said base stations transmits only the first radio frequency when a number of the mobile stations belonging to the first cell thereof is smaller than a given threshold, and transmits the second radio frequency in addition to the first radio frequency when the number exceeds the given threshold, and wherein said base-station controller controls some of the mobile stations to switch from the first cell to the second cell as transmission of the second radio frequency starts,” as recited in claim 1,

and relied upon col. 4, lines 42-67 of Fried et al. as alleged disclosure of the threshold being a number of mobile stations belonging to the first cell. Applicants respectfully submit that the cited portions of both references, separately and in combination, fail to disclose or suggest the above-cited claim features.

The cited portions of Wakizaka only describe the use of pilot signals from various base stations as a way of determining field strengths for a handoff procedure. Such portions of Wakizaka describe a mobile station receiving pilot signals only from its current base station when not using a common frequency, and receiving pilot signals from other base stations when using a common frequency. If the field strength is determined to be below a threshold level, the mobile station sends a handoff request message, and depending on the frequency used by the mobile station, its base station may, in turn, return a change-frequencies command. Therefore, the cited portions of Wakizaka merely describe a mobile station determining whether one or more pilot signals are below a threshold level, and if so, changing frequency only when it is not using a common frequency. Such portions also only describe all base stations transmitting pilot signals at the common frequency and do not include any disclosure or suggestion on any criteria by which such base stations transmit additional frequencies. As such, the cited portions of Wakizaka do not disclose or suggest base stations transmitting only a first radio frequency when a number of mobile stations belonging to a first cell thereof is smaller than a given threshold, and

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transmitting a second radio frequency in addition to the first radio frequency when the number exceeds the given threshold, as alleged by the Examiner.

The cited portions of Fried et al. merely describe a hierarchical cell structure by which a mobile station attempts connections to cells in the structure. Thus, such portions of Fried et al. only describe a mobile station attempting to connect to a cell on the highest hierarchical level and proceeding down the hierarchy if the cell cannot maintain connection quality or is “overloaded with traffic.” The cited portions of Fried et al., therefore, only describe connection quality and data traffic amount as parameters for determining whether a connection can be made to a cell, and do not disclose a threshold being a number of mobile stations belonging to a first cell, as alleged by the Examiner.

Even assuming, arguendo, that it would have been obvious to one skilled in the art at the time the claimed invention was made to combine Wakizaka and Fried et al., the combination would have, at most, suggested a system where base stations transmit pilot signals at a common frequency, mobile stations determining field strength based upon received pilot signals, and the mobile stations and their current base stations performing hand-offs, where mobile stations attempt connections to cells according to a cell hierarchy. Neither reference, as cited and relied upon by the Examiner, discloses or suggests any base station transmitting or not transmitting a frequency based on a threshold. Furthermore, neither reference, as cited and relied upon by the Examiner, discloses or suggests mobile stations switching from one cell to another as transmission of a frequency starts.

Therefore, Wakizaka and Fried et al., as cited and relied upon by the Examiner, fail to disclose or suggest,

“[a] system for mobile communication based on code division multiple access, comprising:

base stations, each of which communicates with mobile stations by using a plurality of radio frequencies covering respective cells, the respective cells including a first cell covered by a first radio frequency and a second cell covered by a second radio frequency; and

a base-station controller which communicates with said base stations, and controls the mobile stations to switch from the first cell of a first base station to the first cell of a second base station via a soft hand-off operation and switch between the first cell and the second cell within any base station via a hard hand-off operation, said base-station controller providing the mobile stations with no direct switch between the second cell of said first base station and the second cell of said second base station, wherein each of said base stations transmits only the first radio frequency when a number of the mobile stations belonging to the first cell thereof is smaller than a given threshold, and transmits the second radio frequency in addition to the first radio frequency when the number exceeds the given threshold, and wherein said base-station controller controls some of the mobile stations to switch from the first cell to the second cell as transmission of the second radio frequency starts,” as recited in claim 1. (Emphasis added)

Accordingly, Applicants respectfully submit that claim 1 is patentable over Wakizaka and Fried et al., separately and in combination, for at least the above-stated reasons. The Examiner cited additional references to specifically address the additional features recited in the dependent claims. As such, the combination of these references would not cure the above-stated deficiencies of Wakizaka and Fried et al. with regard to claim 1. Accordingly, Applicants respectfully submit that claims 2, 9, and 12 are patentable over the cited references for at least the above-stated reasons with respect to claim 1, from which they depend.

Applicants respectfully submit that the cited references, as relied upon by the Examiner, do not disclose or suggest,

“[a] system for mobile communication based on code division multiple access, comprising:

base stations, each of which communicates with mobile stations by using a plurality of radio frequencies covering respective cells, the respective cells including a first cell covered by a first radio frequency and a second cell covered by a second radio frequency; and

a base-station controller which communicates with said base stations, and controls the mobile stations to switch from the first cell of a first base station to the first cell of a second base station via a soft hand-off operation and switch between the first cell and the second cell within any base station via a hard hand-off operation, said second cell of said first base station and the second cell of said second base station, wherein the respective cells further include a third cell covered by a third radio frequency and fully encompassed by the second cell, and wherein said base-station controller estimates a position of a mobile station based on received pilot strength of the second radio frequency reported from the mobile station, and controls the mobile station to switch from the second cell to the third cell upon ascertaining that the mobile station is located in the third cell covered by the third radio frequency," as recited in claim 13. (Emphasis added)

Accordingly, Applicants respectfully submit that claim 13, together with claim 14 dependent therefrom, is patentable over the cited references for at least this reason. Claim 15 incorporates features that correspond to those of claim 1 cited above, and is, therefore, patentable over the cited references for at least the same reasons.

The above statements on the disclosures in the cited references represent the present opinions of the undersigned attorney. The Examiner is respectfully requested to specifically indicate those portions of the respective reference that provide the basis for a view contrary to any of the above-stated opinions.

Applicants appreciate the Examiner's implicit finding that the additional references made of record, but not applied, do not render the claims of the present application unpatentable, whether these references are considered alone or in combination with others.

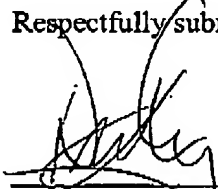
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In view of the remarks set forth above, this application is in condition for allowance which action is respectfully requested. However, if for any reason the Examiner should consider this application not to be in condition for allowance, the Examiner is respectfully requested to telephone the undersigned attorney at the number listed below prior to issuing a further Action.

Any fee due with this paper may be charged to Deposit Account No. 50-1290.

Respectfully submitted,



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